

CLAIMS

1. A method for supply of a starter culture with a consistent quality comprising the steps of:

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(i) supply of a stock inoculum material comprising a concentrate of starter culture organism cells;

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(ii) use of, for subsequent production of starter cultures, a subset of said stock inoculum material for direct inoculation of a cultivation medium with said starter culture organism;

(iii) propagation of the cells of the starter culture organism for a period of time adjusted sufficiently in size to produce a desired amount of said cells; and

15 (iv) harvest of the propagated cells to provide a starter culture.

2. A method according to claim 1, wherein the stock inoculum material provided in step (i) is in quantities sufficient to inoculate at least 50,000 litres of cultivation medium.

20 3. A method according to claim 1, wherein the concentrate provided in step (i) contains at least 10^8 CFU per g.

4. A method according to claim 1, wherein the subset of the stock inoculum material in step (ii) is directly inoculated in the cultivation medium at a rate of maximum 0.1%.

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5. A method according to claim 1, wherein the amount of the subset of the stock inoculum material for direct inoculation of the cultivation medium in step (ii) provides a ratio of the CFU per g of cultivation medium, immediately after inoculation, relative to the CFU per g of the subset of the stock inoculum material to be inoculated, said ratio being in the range

30 from 1:100 to 1:100,000.

6. A method according to claim 1, wherein the cultivation medium immediately after the inoculation in step (ii) contains a number of CFU per g of cultivation medium which is at least 10^5 .

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7. A method according to any of the claims of 1 to 6, wherein the cultivation medium in step (ii) does not substantially or entirely consist of whole milk, but at least partially of skimmed milk or cream.

5 8. A method according to any of the claims of 1 to 7, wherein the stock inoculum material and/or the subset of the stock inoculum material is in a state selected from the group consisting of a liquid, frozen and dried state.

9. A method according to claim 8, wherein the frozen subset of the stock inoculum
10 material is thawed before the addition to the cultivation medium in step (ii).

10. A method according to claim 8, wherein the subset of the stock inoculum material is combined with an aqueous medium to obtain a suspension of the cells before adding it to the cultivation medium in step (ii).

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11. A method according to any of the claims of 1 to 10, wherein the subset of the stock inoculum material in step (ii) is added under aseptical conditions or under substantially aseptical conditions to the cultivation medium.

20 12. A method according to any of the claims of 1 to 11, wherein the stock inoculum material is provided in sealed enclosures.

13. A method according to claim 12, wherein the sealed enclosures are made of a flexible material selected from the group consisting of a polyolefin, a substituted olefin, a
25 copolymer of ethylene, a polypropylene, a polyethylene, a polyester, a polycarbonate, a polyamide, an acrylonitrile and a cellulose derivative.

14. A method according to claim 12, wherein the sealed enclosures are made of a flexible material comprising a metal foil.

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15. A method according to claim 12, wherein the sealed enclosures have a cubic content of at least 0.01 litre.

16. A method according to claim 12, wherein the sealed enclosures are provided with
35 outlet means for connection of the enclosure to the container comprising the liquid

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cultivation medium, said outlet means permitting the concentrate of cells to be introduced substantially aseptically into the container to inoculate the liquid cultivation medium with said concentrate.

- 5 17. A method according to any of the claims of 1 to 16, wherein the starter culture organism in step (i) originates from a species selected from the group consisting of a lactic acid bacterial species, a *Bifidobacterium* species, a *Propionibacterium* species, a *Staphylococcus* species, a *Micrococcus* species, a *Bacillus* species, an *Enterobacteriaceae* species including *E. coli*, an *Actinomyces* species, a
- 10 *Corynebacterium* species, a *Brevibacterium* species, a *Pediococcus* species, a *Pseudomonas* species, a *Sphingomonas* species, a *Mycobacterium* species, a *Rhodococcus* species, a fungal species and a yeast species.
- 15 18. A method according to claim 17, wherein the lactic acid bacterial species is selected from the group consisting of *Lactococcus* spp., *Lactobacillus* spp., *Leuconostoc* spp., *Pediococcus* spp., *Oenococcus* spp. and *Streptococcus* spp.
- 20 19. A method according to any of the claims of 1 to 18, wherein the stock inoculum material in step (i) comprises at least two starter culture strains.
- 20 20. A method according to any of the claims of 1 to 19, wherein the starter culture is selected from industries from the group consisting of the food, feed and pharmaceutical industry.
- 25 21. A method according to any of the claims of 1 to 20, wherein the starter culture is used for inoculation of milk which is further processed to obtain a dairy product, which is selected from the group consisting of cheese, yoghurt, butter, inoculated sweet milk and a liquid fermented milk product.
- 30 22. A method according to any of the claims of 1 to 21, wherein the cells being propagated in the cultivation medium express a desired gene product or produce a desired product.

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23. A method according to claim 22, wherein the desired gene product is selected from the group consisting of enzymes, pharmaceutically active substances, polysaccharides and amino acids.

- 5 24. A method according to claim 22, wherein the desired product is selected from the group consisting of pigments, flavouring compounds, emulsifiers, vitamins, growth-stimulating compounds, food additives and feed additives.

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